THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. II.—No. 5.] Philadelphia, October 2, 1837. [Whole No. 29.

For the Farmers' Cabinet.

Reply to questions respecting the "Economy of Cutting up Corn."

In Vol. 2, No. 3, of the Cabinet, I find "questions respecting the economy of cutting up corn." It is asked, "is it, in general, a good practice to cut up corn at all, or to cut up the stalks while the ears are attached to them." However well the suggestions may suit the ideas of economy entertained at Marcellus, N. York, they are not calculated to suit those of eastern Pennsylvania. The grand conclusion at which the writer, in his view of not cutting up corn, arrives, is, "a greater quantity and quality of corn, and exemption from much toilsome and expensive labor." I will endeavor to answer his five suggestions, as they appear, in rotation, to prove that cutting up corn is preferable, in an economical point of view, to leaving it stand in the field.

1. He says, "Cutting up corn at any time before the leaves are fully dead, does undoubtedly injure the crop in some degree, affecting it probably both as to quantity and quality." But ears of corn, that have not been injured by frost, will attain such a degree of ripeness before the leaves are fully dead, that cutting it up will in no wise injure either the quantity or the quality of the corn. In nine cases out of ten, where corn ripens without injury from frost, the husks will be dead and the ears turned down, while the leaves are comparatively green. Further, it has been satisfactorily proved by experiment, that if corn is cut before it is fully dead, the nourishment obtained from the stalks after it is cut, will produce such a degree of perfection, together with the superiority of the fodder in this case, as to throw the balance in favor of cutting it before it is fully dead.

2. He says, "When corn is cut up, and the stalks secured in the best manner that they can be, it rarely fails that some of them get down, and thus both the corn and the stalks are damaged by exposure to the weather." In order to prevent the damage of the corn and stalks from exposure to the weather by falling down, I would recommend the very thing here objected to. It rarely fails but a portion of the corn will be blown down by the time it is fit to cut. If it is left uncut till it is sufficiently ripe to husk, sometimes the greater portion of it, during the high winds and rains of autumn, when the ground becomes soft at the root, will be blown down. But if it is cut, and carefully put up in shocks, it will withstand the effects of the wind much better, and be much less liable to be blown down. If exposure to the weather be injurious to corn as represented above, there arises another advantage from cutting and shocking it. Where corn is not cut and shocked, every stalk is equally, or rather more exposed to the weather, than those on the outside of the shock; while that in the interior of the shock is protected from any exposure whatever.

3. "If the stalks be left standing in the field, cattle will consume quite as great a portion of them in the field after the corn is gathered, as they would if they had been cut and gathered to the barn." The consideration of the stalks receiving damage from being left standing in the field, and exposed to the weather, has already been sufficiently noticed. Admitting that cattle would consume as great a portion of them when left standing in the field, as when gathered to the barn, a disadvantage presents itself in this form. The fodder from every two acres of well grown corn, when properly secured,

will be sufficient for the sustenance of one head of cattle during a winter. Now it would be very poor economy, to turn cattle out in the deep snows of winter, to gather their sustenance from the stalks of corn left standing in the field. But another objection still exists, which the writer is endeavoring, by not cutting up corn, to obviate. If cattle were turned into a field to consume the fodder, they would make sad havoc of it by breaking and tramping it down to the ground, and thus destroying a great portion of it before it would be consumed.

4. "As materials for dung, stalks cannot be disposed of to better advantage, than to be allowed to remain where they grew, and there be mixed with the soil as is usually done by subsequent tillage." The question might be asked, why are farmers so particular in collecting all the straw, weeds, and rubbish into their barn yards? It is because, when they become incorporated with the excrements and urine of cattle, their fertilizing properties are increased an hundred per cent. The same reason will equally apply to the stalks of corn. Otherwise the dry straw, and weeds, &c., might be spread over the ground with equal advantage, to that fermented in the barn yard. The stalks from every two acres of corn when gathered to the barn yard, will make at least two wagon loads of good manure, after the blades and husks are eaten off by the cattle. When the stalks are taken off the field, the surface of the ground may be prepared much smoother for taking off the succeeding crop: and ploughing and harrowing ground, with the stalks of a crop of corn laying over the surface, conveys any thing else but the idea of neatness in farming.

5. "Cutting up and securing a well grown crop of corn, is a heavy and toilsome labor, involving, together with the subsequent ingathering of the stalks, no trifling item of expense." That cutting up and securing a well grown crop of corn is a heavy and toilsome labor, I am willing to admit; but the expense or the labor, I believe to be no more than other ordinary kinds on a farm. Now, while farmers are sufficiently recompensed for any kinds of labor, as I believe they are in cutting up their corn, I do not see why they should avoid it. The advantages derived from cutting up corn, when the fodder is used in an economical manner, over that of leaving it stand in the field—are, a greater quantity and better quality of fodder for cattle, an increase in the fertilizing matter for the soil, and consequently, a greater gain in the nett amount of the proceeds of the farm at large.

A.

Chester county, September 27, 1837.

The following excellent treatise we copy from the Poughkeepsie New York Journal. It is one of the very best that we have met with on the subject—plain, concise, and worthy the attentive consideration of all engaged in the propagation or preservation of fruit trees. Messrs. Jackson *and* Schram *have our thanks for the copy they forwarded us in pamphlet form.*

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A Concise Treatise on the Growing and Propagating of Fruit Trees, Shrubs and Vines. Founded on the Theories of approved Authors, tested by several years practice, and improved by practical experiments.

Fruit and Fruit Trees.

NO. I.

INTRODUCTORY REMARKS.

Most fruit is in a great degree nutricious; the best kinds are a pleasing luxury, and the greater part, when ripe and in a perfect state, used with moderation, are not only inoffensive, but beneficial to health.

The art of growing and propagating fruit trees and good fruit, will be found to be plain, simple and easy when rightly understood, and in no wise difficult to attain; but it has not received the attention it deserves, and consequently fruit trees consist, in a great measure, of casual growth, or such as are the result of careless, unskilful management, and are either stunted, or diseased, or both, and bear fruit which is unsound or inferior in quality, and the wood is of little value for timber or fire wood.

Trees, when stunted from the seed, or afterwards, can rarely be restored to that vigor of growth which they have lost; and when kept too long in nurseries in a crowded state, which prevents their growing, they become too old to transplant, and either die in the operation, or continue dwarfs ever after.

Trees are frequently grafted and budded, not only when stunted or diseased, but when too large and old, and a great number of grafts stuck all over the trees without regard to being placed in the leading and best placed

limbs. The grafts may safely, as is the practice, be *warranted*, as they will live; but the natural stock will continue to form the bulk of the top and bearing branches, and the grafts will remain diminutive and bear fruit in proportion. 25 grafts well placed are better than 100 placed at random:—10 grafts judiciously placed in a tree of moderate size, will change the whole top in a few years, where 200 grafts scattered all over a large tree, will not materially change its top or its fruit.

No person can, therefore, expect to reap any advantage from grafting, unless on small and middle sized trees, and such as are sound and vigorous: all others should be cut down as cumberers of the ground.

Pruning and training are much neglected, or very unskilfully done—making trees of uncouth shape and condition. Trees, when hollow, are in a rapid state of decline; they will soon rot down. They are made so, in most cases, by pruning off limbs and branches, leaving stumps on the trees; these rot off, leaving a hole in the tree, which admits water and soon rots and renders it hollow. Haggling off limbs with an axe has the same tendency. Pruning should always be done by cutting or sawing off limbs or branches *smooth* and *even* with the trunk or main branch from which it is taken. The wound will then soon heal over and be covered with bark, which is prevented by stumps or snags being left, as the bark cannot grow over dry snags.

Success in growing and propagating fruit trees depends, like every other branch of business, on practical skill *how to do it*, and industry and perseverance in the performance. When you plant an orchard, or single tree, plant sound, vigorous young trees, and no other than those you *know* to be such, either by having raised them yourself, or, if procured from a nursery, on such person's representations and assurances as you can safely rely. If you are the owner of trees bearing common or inferior fruit, save, in general, none but the sound, small and middle sized, which graft with the best kinds of fruit. Regulate all by pruning so as to form full, neat tops, suitably open to light and air; keep the earth around, and as far as the roots extend, mellow and suitably rich; secure them well by staking or boxing; water them a little in droughts, until they have taken root.

Having thus given a general view or outline of the subject, I shall now proceed in detail to describe the method of producing sound, hardy, durable trees, and good healthy fruit, and of making the business successful, agreeable and profitable.

On the growth and propagation of Fruit Trees, Shrubs and Vines.

These may be propagated, 1. *By grafting*; 2. *By budding or inoculation*; 3. *By cuttings and layers*; *and* 4. *From Seed.*

SEASONS FOR EACH.

Grafting must me done in the spring, and may be performed as early as the middle of March, and as late as the first of June.

Budding may also be performed in the spring after the bark peels freely, with buds of the previous season's growth, or in summer and autumn after the buds of the same season have attained their growth, which is preferable.

Trees, cuttings and layers must be planted in the fall after frosts and before the ground is frozen, or in the spring after the frost is out and before vegetation has advanced much, which is also a proper time for pruning.

Seed should be planted so late in the fall as not to vegetate but little, if any, or so early in the spring as to have the advantage of the whole season to grow and ripen in, to withstand the winter frosts.

GRAFTING AND BUDDING IN GENERAL.

Grafting may be performed on most kinds of trees on large or small stocks. Different methods of grafting should be used according to the size of the stock. It may be done in any manner by which the scions and stocks can be united. Those methods most in use will be noticed. Budding will only succeed on small stocks of *vigorous growth*, from the size of a yearling shoot to half an inch, and not exceeding about three-fourths of an inch in diameter.

The apple and pear succeed well either by grafting or budding.

The peach, apricot and nectarine seldom fail when budded, but rarely succeed by grafting.

The plum and cherry take without difficulty by whip grafting, which is the best method to propagate them; they may also be propagated with tolerable success by budding (the plum more readily than the cherry) and likewise by cleft grafting, when you succeed in splitting the stick without splintering the wood or injuring the bark, which can seldom be done.

Grafting and budding, for the most part, can only be practised with success on stocks of the same kind with the bud or scion. That is to say, the apple on apple stocks, pear on the pear, the cherry on the cherry, &c. Peaches, apricots and nectarines may be propagated on each other, and together on the same tree. *The apricot succeeds well on the plum*, and is more durable than on the stock

of its own kind, or on the peach or nectarine, but not of so quick growth. The peach and nectarine may also be propagated on the plum, but will outgrow the stock, unless a plum stock be used growing equally or nearly as fast. Trees of the common small black, and red cherry, make excellent and perhaps the most durable stock for cherries of all kinds. The quince and the pear may be grafted on a thorn stock, &c.

GRAFTING.

Scions for grafts may be cut at any time in winter, and even late in the fall. The *proper time* is in February or March, before or at the time the buds begin to swell or vegetate; buds, in this respect, are like kernels of grain, if disturbed when they swell and sprout, they become of slender and sickly growth, and rarely recover their natural vigor. Cut for grafts shoots of the last spring's growth, with a little of the two year's old wood. Take your grafts from fruitful trees, bearing good fruit of the kind: that is, if from a pippin tree, let it be from such as bear the best of pippins. The best grafts are those about the size of a pipe stem, taken from bearing branches, and not of side shoots or suckers, nor of the rank growth of the top of trees; these are apt to continue their rank growth, and outgrow the stock, and are not so soon in bearing, nor so fruitful; if too slender they will not be thrifty, nor take well. Tie up the grafts of each kind by themselves, with some distinguishing mark; put them in a cellar or out house, to keep them from being saturated, dried up, or frost bitten; set in a box of earth one-third their length, the earth kept moderately moist by occasional sprinkling, to keep them plump and prevent their shrivelling, but not so wet as to cause them to sprout.

Scions may be used for grafting, fresh gathered, at any time during the season of grafting before the buds open to leaf; early gathered grafts will, however, take more readily.

Take 8 ounces of *pure*, *transparent rosin*, *free from sediment*, about 2 or 3 ounces of bees wax, and lard of half the size of a hen's egg, melt them over coals or a slow fire, stirring the composition with a stick; after thoroughly mixed and melted, empty it into a pail of cold water, rub some lard over your hands to prevent its sticking to them, and work it together thoroughly, as shoemakers do their wax. If the composition is too hard and does not work freely when making or while using it in grafting, rub over it more lard and work it in as before; if too soft add rosin, and so on until it becomes suitable for use.

CLEFT GRAFTING.

Cut down all diseased and stunted trees, and graft those only which are healthy and thrifty, of not exceeding 6 or 8 inches in diameter, in some of the leading, best placed and thriftiest branches on the tree, with a view to changing the whole top. Trees of a large size may be grafted, and partially, and in some cases wholly changed, but not generally, without a great deal of labor and attention. Saw off the branches for stocks to graft on, at smooth places where they split well, and are in diameter of from 1 to 2 inches, prune the tree sufficiently to give room and air to the grafts, and gradually to force the juices of the whole tree into the grafts. Continue pruning each tree yearly, at any leisure time in the winter or spring, giving sun and air, and making room for the grafts as they grow, in such manner that if the grafts are of vigorous growth, in the third season to have cut out all except the grafts, and formed a new top. When limbs are taken off in pruning, it should be done with a saw or chisel, not an axe, and if large limbs a coat of tar, paint or the composition mentioned, put over the wound.

Having the stocks prepared as above, and being furnished with grafts and the composition, with a case knife or other convenient instrument and hammer, split the stock in the middle, drive in a wedge of hard wood or iron of 6 or 8 inches in length, and open the split so as to admit the graft freely, prepare the grafts, either all for the same tree, or one by one as used, by paring off about an inch and a quarter of the end of the graft or scion to the shape of a wedge, leave that side of the graft which is to be put towards the centre of the stock of *equal* thickness with that part which is to be towards the outside of the stock, with a view that the pressure of the stock, when closing upon the graft, be on the *inside* and not on the outside of the graft, where it is intended to unite with the stock: the outside if a little open, will facilitate the communication of the sap from the stock to the graft; but if closed up tight, may prevent such communication and endanger the graft; insert the graft as far as cut in wedge form, matching the *wood* of graft and wood of the stock without regard to the outside or surface of the bark on either; take out the wedge with sufficient care not to disturb or displace the graft. To stocks a little over an inch in diameter, one graft is sufficient, if larger, two are necessary, leaving on every graft from two to four buds. Finish the work by covering the crown of the stocks and the splits on each side, whether containing a graft or not, with the composition about the thickness of wrapping paper, by drawing it

into strings over them, and smoothing it down lightly with your finger or thumb, covering the whole perfectly tight, to exclude air and rain, and more especially to prevent the sap from running out. The sap being confined, will force its way to the graft, which will readily receive it.

Stocks with only one graft will be improved by having the corner opposite the graft pared down to about the middle of the graft. It will enable them to heal over sooner, without leaving defects.

If the stock splits uneven, cut it a little to fit the graft. If the bark splits from one side of the stock and adheres to the other, cut it down even with the wood, and match the graft to that side only, in case the other is too badly injured.

The grafts should be examined occasionally, and the shoots from the stocks ought not to be suffered to acquire a luxuriant growth, but *gradually* thinned out and cut away as the graft acquires growth and strength to take the juices of the stock.

Let the limbs or stock for grafting be cut off, when convenient, above and near small branches or shoots, to be left at first to draw the sap.

If the above directions are substantially adhered to, few grafts will fail; and a middle sized tree of vigorous growth, may have the top changed, and in a fruit bearing state, in about three years.

Leached Ashes as a Manure.

It appears to us that the attention of farmers can scarcely be called too often to the subject of manures, or their varieties and modes of action too fully discussed or illustrated. Constituting as they do his wealth, and furnishing the only means of raising good crops, or renovating impoverished soils, every substance that can enhance and perpetuate the fertility of his lands should be carefully tried by him, and its value estimated accordingly.

In the western part of this state, and in all new countries, such is the fertility of the soil, and the abundance of native salts and vegetable matter furnished during a long course of growth and decay, that the first series of cultivators find little use for the manures, and the expedients for ameliorating the soil, which are so necessary in the older cultivated countries. Hence materials, which are considered invaluable for these purposes in the states on the seaboard, or in European countries, are in our new settlements considered a nuisance, and wasted in immense quantities. The gradual decrease which has taken place in the annual production of wheat per acre for several years, on most of our old farms, shows, we think, that the native energies of the soil are weakened, and that the course adopted for improving soils in other places must be resorted to by us.

One of the most prominent articles used as manure in older settled countries, and sought after with an avidity that shows its real value, in ameliorating the soil, is leached ashes, a substance which as yet has scarcely created a thought among us, except it was to devise some easy method of disposing of the quantities so rapidly accumulating around our domestic leach-tubs and asheries. Millions of bushels—we might almost say loads—of this valuable material are annually wasted, when the time has arrived, as we think, that it could most profitably be used on our farms.

There is scarcely a process in farming, or an article used for substantially improving the soil, for which more decisive testimony can be found, than can be adduced in favor of leached ashes as a manure. Under the head of "Stimulating Manures," Chaptal, in his celebrated work on Agriculture, makes these remarks: "The ashes produced by the combustion of wood in our common domestic fires, give rise to some very remarkable results. Without being leached, these ashes are much too active; but after having been deprived by the action of water of nearly all their salts, and employed in this state under the name of *buck ashes*, they still produce a great effect. The action of the buck ashes is most powerful upon moist lands and meadows, in which they not only facilitate the growth of useful plants, but if employed for several years they will free the soil from weeds. By the use of them, land constantly drenched with water may be freed from rushes, and prepared for yielding clover and other plants of good kinds. Wood ashes possess the double property of amending a wet and clayey soil, by dividing and drying it, and of promoting vegetation by the salts they contain."

The Rev. Mr. Colman, in his interesting account of the successful system of farming adopted and pursued by Mr. Stimson of Galway, in Saratoga county, thus speaks of the use made of leached ashes on that farm, and the opinion of the owner on their actual value: "Mr. Stimson manures his land only once in six years, excepting the application of plaster to his corn. He allows five loads of barn-yard manure and three of leached ashes to the acre, and this is always spread upon the surface after ploughing for the first crop, and either harrowed or ploughed in by a very light ploughing. * * * He deems leached ashes a most valuable manure, and much to be preferred to that which is unleached, which he considers as having at first a tendency to force the land, but in the end to im-

poverish it. Next to leached ashes, he considers lime the best manure for land." Mr. Stimson's course of farming is as follows: 1st year, wheat, manured; 2d, corn, plastered; 3d, flax, rye, or barley; 4th, clover and herdsgrass; 5th, clover and herdsgrass; 6th, pasture; then manure as above and wheat.

In no part of the United States has agriculture and horticulture reached a greater degree of perfection than on some parts of Long Island; and this conversion of sandy plains into the most fertile of soils is, by those who are acquainted with the history of that region, attributed mainly to leached ashes, purchased at New York and the various landings on the North River. Dr. Williams says, the favor with which they are viewed there is the result of experience, and adds, "I know of many thousand acres on the Island which were once too poor to produce even mulleins and rib-grass, which now cut from one and a half to two tons of clover hay per acre, and this has all been done by buying leached ashes at from twenty to thirty-two shillings per fourteen bushels, and carting them from one to ten miles. I therefore conclude that leached ashes are a good manure, and if properly applied will be invaluable even in Western New York." In a valuable paper on this subject by E. L. Hommedieu, published in the N. Y. Ag. So. Trans., he says: "That ashes are found best to succeed on dry loamy lands, or loam mixed with sand. It is here considered as the cheapest manure that can be procured. Ten loads of this manure on poor lands, will produce ordinarily twenty-five bushels of wheat, the value of which exceeds by five dollars the expense of the manure, and the five dollars pays for the expense of labor in the crop. The land is then left in a state for yielding a crop of hay of between two and two and a half tons per acre, which it will continue to do for a great number of years. No manure continues so long in the ground as ashes."

We think the opinions and experience of the eminent farmers we have given above, abundantly sufficient to establish the fact of the value of leached ashes as a manure, and also incidentally to illustrate the kind of soil on which it is most effective; and we trust the attention of farmers favorably situated for its use, or on farms which may require its application, will make a thorough experiment of its effects in the interior, and report the result. It has we believe been hinted, that as nature is made up of a system of balances, and as gypsum is found to be nearly valueless on the sea coast, while it is all important in the country, so ashes may be effective on the coast, owing to the combinations effected by the salts contained in them and those of the sea air, while from this cause in the interior they must of course be inert; but this reasoning will most probably be found entirely incorrect.

One principal reason why leached ashes are so valuable as a manure appears to have been mostly overlooked, and that is, the quantity of lime they contain. This substance is placed in considerable quantities at the bottom of the vats or leaches in all asheries, to facilitate the labor of working, and is thrown out with the ashes. This fact, taken in connection with the one that a large portion of alkaline matter must remain in all ashes after leaching, accounts for the benefit they render to wet sour soils, by neutralizing such acid, and promoting the decomposition of vegetable matter, which in such earths always proceeds slowly, while at the same time they prevent adhesion in the soil, and enable the roots of plants to seek their sustenance freely. On light sandy soils they give consistency, and by the existing action of their still abundant salts effectually promote vegetation.

The best mode of application appears to be, to mix it with the surface of the earth, where it will be slightly covered by the operations of sowing or planting. A Pennsylvania correspondent of this paper says: "I put a small handful of unleached ashes *into* each hill of corn at the time of planting, and I think this way better than to put it *on* the hill after the corn has come up. Leached ashes for this purpose are not worth as much as unleached, yet with the latter, the corn was far better than in that part of the field where no ashes was applied." A writer in an eastern journal affirms from his own experience, that a bushel of ashes is worth as much to the farmer as a bushel of corn, and advises his brethren to apply their ashes to their corn, flax, or grass, in preference to selling them at eight or ten cents per bushel. —*Gen. Far.*

Draining, No. 2.

Some of the richest land is formed of *alluvial deposites* in the bottom of valleys. Its consistence is so extremely fine and compact, that water is very slowly imbibed by it: hence in a wet time, or even after a heavy shower, the turf becomes like a sponge; and the surface having little or no declination, the water rests longer upon it than is suitable for the grass, for the cattle that feed upon it, or for those who breathe the vapors rising from it. Add to this that, when in this sloppy state, heavy cattle poach it sadly—breaking the turf, and filling it with steppings and holes, which becomes so many pools of unwholesome water. If sheep are put on such land in autumn, it will go far to rot them; in a showery time, it

is with difficulty hay can be made upon it; and many other inconveniences attend the possession of such a description of land, unless it is thoroughly drained.

But *how is a dead level to be drained?* This, indeed, is no easy affair, although it is done in many places with very good effects. The surface may have a fall, whether perceptible or not: when this is ascertained, a large receiving ditch is opened at the bottom; and if the meadow be of considerable length, two or three other receiving ditches are opened at different distances higher up. These being first finished, surface drains from six to twelve feet apart, are made from the top to the lower end of each division. These may be called *catch drains*, and are thus made. The drain being lined off a foot wide, and the turf at each side cut through with a racer, turves are cut off four inches thick, and of any the most convenient length, and laid regularly on one side to be replaced when the bottom of the drain is completed. This done, a narrow trench is dug out of the centre of the naked space with a spade, and a channel is made from end to end. After this, a still narrower pointed tool is used to make the cleft or channel another spit deep. A shoulder is thus left on each side of the cleft, on which the sod that was first taken up is carefuly laid with the grass side downwards, and the remaining space is filled up with a loose earth, as represented in the following cut at fig. 10.

Open drains on grass land will also carry off much of the surface water, and lay the land tolerably dry without turning up much of the soil, as they need not be made deep. A common plough may indeed be so held, if neatly made, with an iron mould board attached to it by means of rivets, about nine inches high, and formed with a slight curve, as to throw over a sod of about six inches wide, by which means it will cut the ground in small triangular trenches, nearly like those at fig. 11, the sides of which may then be firmly pressed down, and afterwards kept clean by a cart-wheel with the addition to the felly, as designed at *a* in fig. No. 12. The felly is that of a six-inch cart-wheel, with an addition of wood, of a conical shape, to put on round the felly, and either to be shod with iron, or a rim of solid iron to be added to it.

Fig. 10.

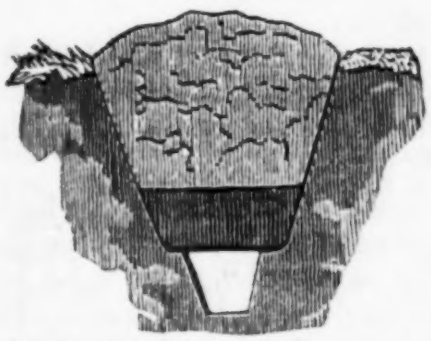


Fig. 12.

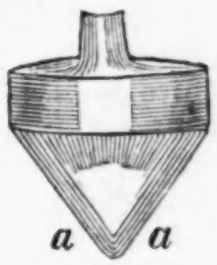
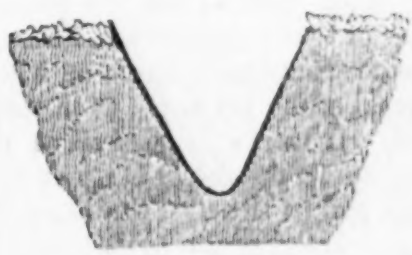
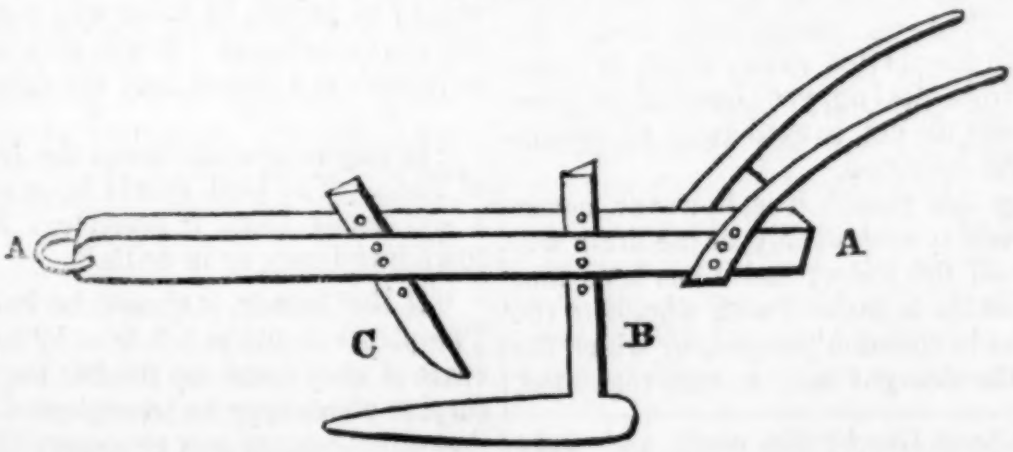


Fig. 11.



A wheel of this description put on the axle of a cart in the common way, will, of course, rest on the rim of the iron; and on driving the horses forward it will fit exactly, if so made, into the trench, and thus press it down in every part equally. This side of the cart must however be loaded with some heavy material, in order to make the wheel sink into the soil; but as the wheel on the opposite end of the axle will only support the empty side of the cart, it will not cut the land. If the soil require very close drainage, a pair of wheels may be fitted with such rims, and being fixed upon an axle projecting beyond the cart

Fig. 13.



to the intended width of the trenches, will perform the operation still more completely. The advantage of this contrivance is, that it not only makes a firm indent in the soil sufficient to carry off the water during the winter, but in the following spring these drains will be so nearly clothed with grass, that little or nothing will be taken either from the pas-

turage or from the scythe; and in this manner the drains may be kept clear at the approach of every winter, at such moderate expense that a man with a couple of horses may go over from ten to twenty acres according to the breadth of the drains apart from each other, in the course of the day.* There is, however, one objection to all kinds of open drains in pasture land—that, when fed with sheep they frequently occasion them to be cast; and therefore, unless narrowly watched, they may become dangerous to that stock.

There is therefore another mode of preventing injury to meadow ground with *under drains*, by the use of the *mole plough*, (fig. 13,) which consists of a strong beam, A, with stilts of the usual form. The mole, or borer, is a well-tempered cast-iron conical share, of about three inches diameter at the largest end, but sharp at the point, and supported by a very stout flat wrought-iron bar, B, mortised into the beam, and about an inch in thickness at the back but champered to a sharp edge at the front, to cut the soil. The coulter, C, is rather smaller, but cuts with the edge in the same line, and in some ploughs has been also made a support to the mole by being fixed into it; but the plough, with a coulter of that construction, does not clear itself of obstructions so easily as when left with the usual space between, as in that above designed. It works in general at about a foot underground, but the depth may be regulated by pins placed through the beam in the coulter and support of the plough; and in a clayey soil of sufficient adhesiveness to prevent the crumbling of the earth, it forms a close hollow space, as round and compact as a leaden pipe.† The sides, however, become so perfectly closed as to completely prevent the filtration of water, and would therefore only serve as a passage to convey a quantity from any point of the meadow to a large drain, or pond were it not that the cut made by the coulter and support through the upp part of the soil leaves a small opening, w ch has in some cases been partially filled up immediately under the sward with the plaited straw, which prevents the sides from closing, yet allows of the grass to grow over the cut, so as to avoid all appearance of the operation.

In using this plough it is, however, necessary to guide it very evenly, or the drain will not carry off the water; and it has been thus found advisable to make it with wheels to the fore end, as in common ploughs, by which the depth of the draught may be thus regulated.

A man must live by the world and make the best of it, such as it is.

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* See Middleton's survey of Middlesex, 2nd edit. p. 359.

† Ibid. p. 361.

From the Watertown Eagle and Standard.

Sugar from Beet.

We find in the Ogdensburgh Republican of the 30th ult., a communication from Josiah T. Marshall, Esq., of Morristown, land agent, &c., on the culture of the sugar beet. With commendable liberality he has procured a quantity of seed for gratuitous distribution, with the view of exciting the attention of farmers and others to the culture of the beet, not only as furnishing sugar for the purest quality but also as a source of revenue and the preparation of the soil for other crops. Having himself witnessed the cultivation of the beet and the manufacture of sugar therefrom, in France, he is every way qualified to furnish the necessary information relative to these facts, and this he has kindly promised to do from time to time as the crop advances to maturity. We subjoin a few extracts from Mr. Marshall's communication, as best exhibiting the importance of the subject:

"The value of this article of husbandry is not confined to its use as the material of sugar. As a crop to alternate with grain it has no rival; and by a judicious use of it no land need lie fallow.

"The 'cakes' or that part which is left after the juice is expressed, affords a valuable nutriment for horses and cattle. It is eaten by them with great avidity.

"The mode of manufacturing the sugar from the juice of the beet is very simple. It is true that in describing the mode, learned men have used many hard words. But divested of technicalities and scientific terms, it is a matter of entire simplicity."

* * * *

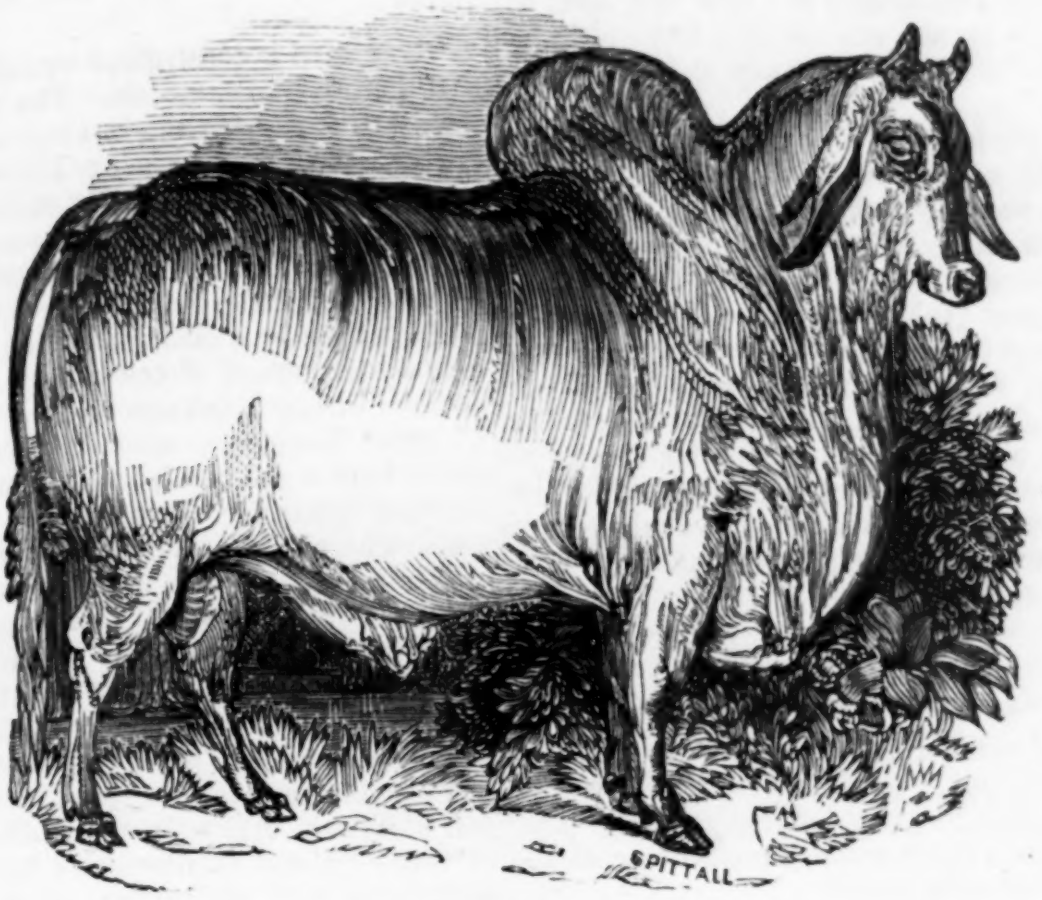
"The simplicity which is used in the manufacture of maple sugar may be advantageously used in this; and the manufacturing season is at another period of the year. There are some things in connection with the manufacturing process, which it is important should be known by those who purpose making the experiment. It will give me pleasure to furnish at a future time the details."

* * * *

"It may be sown between the 1st and 10th of June. The land should be in good order, a soft sandy loam, if possible. It may be sown broad cast, or in drills."

"If the former, it should be harrowed in. The plants should be left from 12 to 18 inches apart if they come up thicker than that, the surplus plants may be transplanted. No further directions are now necessary. they should be kept well hoed and free from weeds."

Let every man mind his own business.



The Nagore Bull. Fig. 14.

Nagore Cattle.

A bull and cow were exhibited at the Christmas cattle show, in London, in 1832, under the denomination of Nagore cattle. They were beautiful animals, and attracted much attention. They were the property of Henry Perkins, Esq., of Springfield, near Wandsworth, to whom we are indebted for the substance of the following account of them.

They were bred by Lieutenant Colonel Skinner, at his farm at Danah, near Pokah, on the borders of the Bichaneer desert, 100 miles to the westward of Delhi. They are not buffaloes, but of the highest breed of Indian cattle. They are used in India by the higher orders, to draw their state carriages, and are much valued for their size, speed, and endurance, and sell at very high prices. These specimens arrived at Calcutta, a distance of 1400 miles, in January, 1829, and were then something under six months old. They were sent as a present to Mr. Wood, who was then residing at Calcutta, and by whom they were forwarded to Mr. Perkins.

Colonel Skinner has a large stock of them; and six or seven beasts are always kept saddled to carry the military despatches. They remain saddled three or four hours, and if not wanted in that time, fresh ones are brought out to relieve their companions. They will travel, with a soldier on their back, 15 or 16 hours in the day, at the rate of six miles an hour. Their action is particularly fine—nothing like the English cattle, with the sideway, circular action of their hind legs—the Nagore cattle bring their hind legs under them in as straight a line as the horse. They are very active, and can clear a five-barred gate with the greatest ease. Mr. Perkins has a calf which has leaped over an iron fence higher than any five-barred gate; and the bull frequently jumps over the same fence in order to get at the water, and when he has drank his fill, leaps back again.

The bull (Jupiter) was in high condition when exhibited. He is employed in a light cart, in various jobs about the farm: sometimes he goes fore-horse in the wagon-team, to deliver corn; he also drags the bush-harrow, and draws the light roller over the ploughed land. He is very docile and tractable, when one man drives him, and attends upon him, but he has, now and then, shown symptoms of dislike to others.

He is fed entirely on hay. Except that when he works, a little bran is given to him, and in the turnep season he is treated occasionally with a few slices of Swedes, of which he is very fond. He was at first very troublesome to shoe; and it was necessary to erect a break in order to confine him. He was unwilling to go into it for some time, but now walks in very contentedly.

He is very fond of being noticed; and often, when he is lying down, if any one to

whom he is accustomed goes and sits down upon him, and strokes him over the face, he will turn round, and put his head on their lap, and lie there contentedly as long as they please.

Mr. Perkins very properly observes, that the chief advantages of these Brahmin bulls would probably consist in their speed and strength, in both of which they surpass any of our breeds.

The cow (Io) is at grass with the milch cows, and comes up with them morning and evening, when they are driven to be milked; but Mr. Perkins has not ventured to have her milked, on account of the probable danger of the attempt: the value of these cattle for the pail is therefore unknown. Two calves have been bred from them, and a milch cow is now in calf by the bull.

Farm accommodations for Cattle.

Farmers differ so much in their opinions, situations, pursuits, resources, &c., that it is quite impossible to lay down any general plan with regard to the arrangement of accommodations for their stock.

In Pennsylvania, there is a laudable emulation among the farmers in building good barns, which accommodate their stock comfortably. In them they stow away hay and grain. When the wheat is threshed out, the straw is replaced, ready to litter the stable and feed the cattle. The provender is so convenient, that a boy can feed the stock of a considerable farm in half an hour, without going out of doors; and as all the hay and straw is in one place, consequently all the manure, without much attention, centres in one body, and is by that means preserved, as they have mostly a cow-yard with a fountain of water in it; in this the manure is kept, and the cattle run during the day to get water.

These barns are so constructed that the lower story holds all the stock, and frequently have granaries and carriage houses, with room for all the hay, wheat, &c., produced on one or two hundred acres. This building is much more convenient, costs less, takes less room, and the business is more easily conducted, than by building corn-house, stable, carriage-house, hay and straw sheds, all separate, as some of our farmers do, requiring four times the roof, which is the most costly part of the building, some of which are frequently of a temporary character, and are often a disgrace to a handsome farm; whereas the barn is a convenient, substantial, cheap building, considering the accommodation it affords.

Robert Smith, Esq., of Baltimore, gives the following account of his dairy farm arrangements:

"The barn is constructed according to the best Pennsylvania models. The yard is to the south of it. On the east and west sides, are cow stables containing 110 well-made stalls, and well ventilated by a sufficient number of windows and double doors. In these stables, in summer as well as in winter, several ranges of cattle, duly littered and properly secured, each by a chain and halter. At the tails of each range of cows, there is a drain made of strong planks, so fixed as to receive all their dung and urine. These several drains have a sufficient declivity to carry all the fluid matter to their southern terminations, where they intersect similar drains, which convey all this liquid manure into a cistern fifty feet long. This cistern is so placed and constructed as to receive not only the urine of the stables, but also the liquid matter of the farm-yard. In it there is a pump, by means of which, its contents are pumped into a large hogshead, fixed on a pair of wheels, drawn by oxen. To the end of this hogshead is attached a box pierced with holes, into which this liquid manure flows through a spigot and faucet, and is then sprinkled over the ground, as the oxen move forward.

"For the purpose of augmenting the quantity and improving the quality of the food of my stock of every kind, I have established a steam apparatus. It consists of a boiler and two wooden boxes, in which boxes is steamed the food. These boxes contain each eighty bushels. By this simple apparatus, every species of coarse vegetable offal, is converted into nourishing food, and all the ordinary provender is rendered more nutritious."

The common cattle stalls of our country, says Col. Pickering, are so ill contrived and so straightened in their dimensions, that the cattle are constrained to lie down in part of their own dung. This dries and forms a thick coat on their hind quarters, from which they are not relieved till they shed their hair in the spring. They are thus rendered *uncomfortable*. To be uncomfortable is to suffer some degree of pain; and no one will suppose that animals in *pain* can *thrive*, or preserve their plight with the same food, equally with others perfectly at ease.

The practice of stacking hay and fodder in the fields, and feeding the cattle round the stacks and fodder houses, cannot be too much condemned. The disadvantages of which are, a wasteful use of the provender; the dung lying as it dropped, without straw or any other vegetable substance brought to it, the manure is little in quantity, and that not lying in heaps, is reduced abundantly by ex-

lation and *rain*, without leaving any thing to the soil.

In good husbandry, cattle are carefully housed, or otherwise confined to a foul yard in which are *shelters* against cold rains during the winter, and as far through the spring as food will last; by this means, there is a fair expenditure of provender, without waste, less exhaustion of the juices, because of the dung lying together in large heaps; and the dung being mixed with the straw and other vegetable substances brought to the beasts as litter, the whole is trod together and forms a large quantity of very valuable manure.

Litter is as essential to cattle, when let into yards, as when placed in stalls under cover, without which, yard manure is of small account; and unless it be in full proportion to the number of cattle in the yard, it is not thought highly of, but is a half done thing. Good farmers in England deem full littering of cattle, when in yards, of such importance, that after reaping with sickles, and inning their wheat, they cut the stubble and stack it for litter. Besides straw and stubble for litter, they apply to the same use fern, and such other vegetable substances as they can procure; and they buy straw from common farmers who are not in the practice of littering. In all countries, common farmers are indifferent to improvements; they work not beyond old habits; and it is prudent that they venture not on extensive new projects, without first making experiments. A full littering is three loads of 12 or 1300 pounds of straw to each grown beast. Corn stalks may be carried from the field in great quantities, in a skeleton frame cart, if not cut up and fed when fresh.

Many farmers feed in their yards in racks, and suppose that they gain every possible advantage from the practice, by the saving of the dung dropped, trampled, and watered by the cattle; and though this practice is certainly preferable to wasteful pasturing, or to feeding in the fields, yet it ought to be recollected that the manure will be much inferior to that made and preserved under cover.

Where cattle are yard fed, or stall fed in yards under sheds, it is of great consequence to defend beasts against the cold and damp north-east winds and the cold blasts from the north-west. Mr. E. Duffield, therefore, advised a friend who wished to have a complete farm-yard, to erect a range of buildings in a south-east direction, to have double stalls below, leaving the south-west and south-east sides open to admit the sun in the winter, and give free entrance to the prevalent winds of summer.—*Practical Farmer.*

Assume a virtue if you have it not.

An Essay on Indian Corn,

Delivered by Peter A. Browne, Esq., L. L. D., before the Cabinet of Natural Science of Chester county, Pa.

ZEA MAYS. "Maize" or "Maiis." "Indian Corn" or "Indian Wheat." "Blé ou Bled de Turquie ou d' Inde" (French.) "West India Corn" (Spanish.) "Lenehasquem" (Lenni Lennape.) "Melomin" (Chipeway.)*

The word "Zea" is borrowed from the ancien tGreek word "Zao," "to live," the seeds contributing eminently to the support of life. †It is rendered in Latin "triticum," (wheat,) and "hordium," (barley,) from which it is inferred, that in its original it meant "*grain*" only. In like manner in English the word "corn," which is derived from the

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* 1. Z. MAYS, 1. *Leaves Lanceolate, keeled, entire.* Willd. Sp. 4. p. 200.

Vulgo—*Corn. Indian Corn. Maize.*

Root *annual.* Culm 6 *to* 8 *or* 10 *feet high, and an inch to an inch and a half in diameter, simple, (often producing suckers, or branches, at base) noduse, semiterete, or with a broad channel on one side, smooth, solid with pith. Leaves* lanceolate, acuminate, nerved, keeled, 2 to 3 feet long, and 2 to 4 or 5 inches wide, smooth beneath, pubescent on the upper surface, ciliate on the margin: *sheaths* striate, smooth, conspicuously pubescent along the margin; *ligule* short, obtuse, slightly pubescent and ciliate. *Staminate Flowers* in terminal paniculate racemes. *Spinklets* somewhat unilateral on the branches, mostly in pairs, one subsessile and the other pedicellate, each two-flowered. *Glumes* herbaceous, nerved, pubescent, the lower a little longer. *Paleæ* 2 to each floret, nearly equal, membranaceous, ovate-oblong, obtuse, subdentate and ciliate at apex. *Anthers* greenish yellow. *Scales* collateral, cuneate, truncate, fleshy and smooth. *Pistillate Flowers* in solitary axillary, sessile spike, (1 to 3 or 4—usually about 2 of these spikes or Ears—on each plant.) *Spikes* enveloped in spathe-like convolute sheaths,—the outer or lowest of these sheaths (being the one next the culm) thin and membraneous, with two keels. *Spikelets* 2-flowered, arranged in longitudinal series on a cylindrical spadix, or receptacle, 6 to 12 inches long,—the series or rows, always in pairs: *florets* sessile, the lower one abortive. *Glumes* 2; the lower one rather shorter, very broad, deeply imarginate, or somewhat two-lobed, ciliate, the upper one suborbicular. *Abortive floret* with 2 paleæ; the lower one orbicular, embracing the fertile floret, the upper one shorter, with the margin inflexed. *Fertile floret* with two or three palæ; the lower one suborbicular the upper one very broad (or somes 2.) *Ovary* smooth, obovoid, obtuse or rounded, compressed at base. *Style* very long, filiform, projecting beyond the sheaths, pendulos, often purple: *Stigma* pubescent, bifid. *Seed* compressed, orbicular reniform, or cuneate, often indented at apex, sitting transversely on the cylindric or conic receptacle, and partially imbedded in sockets formed by the persistent glumes and paleæ.

Hab. *Cultivated fields: common.* Fl. *July—August.* Fr. *Sept.—October.*

Obs. There are several *Varieties* of this plant.—with the seeds *yellow, white,* or somtimes *dark purple*; and one which is smaller, and comes sooner to maturity. I have also seen a singular variety, in which every seed on the receptacle appeared to have its own husk, or spathe-like covering, in addition to the general envelope. The Indian Corn is one of the most interesting of the *Gramineæ*—rivalling the *Sugar Cane*, and the *Rice*, in intrinsic value,—and, in this region at least, ranking next in importance to *Wheat* itself. It is universally cultivated here, being generally the first in the routine of the crops, breaking up the Lay, or sod. The *seed* is planted early in May. No other species of the genus is known in the United States.—[DARLINGTON.]

† Darlington.

† These flowers are occasionally pistillate both pistillate and staminate Especially— the suckers.

Saxon "corn," and the German "Korn," includes "*all* seeds that grow on *ears*, and not in *pods*, and that are made into bread." "Corn," in political economy and commerce, is synonymous with "bread stuffs." All the British statutes regarding *grain*, are called "*corn* laws." The words blé and bled in the French, and the word "Trigo" in the Spanish language, correspond with the word "*Zea*," as thus explained. Blé was also the Norman name for corn.‡

The class Zea is divided into two orders. 1st Zea mays. 2d. Zea curagua§

The Zea belongs to the 19th class of plants called Monœcia (one house,) because the plants of this class have imperfect flowers, the stamens and pistils growing on the *same* plant, but on separate corollas.

The *orders* of this class are determined by the numbers of styles and pistils. The Zea mays belongs to the third order "Triandria," three stamens.

In the natural orders it is arranged under the 4th "Gramina;" family "Cerealia," Cerealis, any grain from which bread is made, from "Ceres," the goddess of corn.

In books of horticulture it is ranged under "culmiferous crops."

Some writers call the Zea mays a "gigantic grass." Col. Taylor of Virginia, speaking of deep ploughing, calls it "a little tree."

It is generally ranked as the third grain, in point of utility, by European writers; they placing before it, rice and wheat; but in the United States it takes precedence of all other grains.

I propose to treat of this valuable plant under the following heads, viz:

I. To what country did it originally belong?—Is it a native of America?

II. Where is it now cultivated?

III. How much is raised in the United States?

IV. Of the varieties of Indian Corn.

V. Which kind is to be preferred?

VI. The capacity it has of retaining its germinating power?

VII. The methods of cultivating it.

VIII. Is the Indian corn capable of being improved by culture?

IX. Its cultivation compared with other grains.

X. The different uses to which it is applied.

I. To what country is the world indebted for this valuable plant?

Is it a native of America?

I state the above as two distinct questions, for it might be that the Indian corn was indigenous to different countries. But it was no apprenhension that the Indian corn had been a native of any other part of the world that induced me to make the suggestion.

Not to trouble the reader with the numerous other writers who have dwelt upon this subject, I will remark that in "Lieber's Encyclœpedia *Americana*," published in 1831, it is stated, that "the native country of the Indian corn remains *still undetermined*." If this be the fact, is it not high time that the question were decided? I believe that there is on record information enough to put it forever at rest; and mine has been the task to collect and collate it. It is not meet that a nation, who (to use the words of Col. Taylor,) have lived "*in it*," and almost "*upon it*," for upwards of two hundred years should be unable to tell their children whether the Indian corn is a native or exotic plant. It is a reflection upon not only the learned, but the mass of the community, that their great *staple commodity*—the plant that demands and receives the patronage, the skill, and the industry of a large agricultural part, of a great agricultural nation, should be so imperfectly known. It is no longer to be tolerated, that a crop—which has not been too strongly described, as the *meal*, *meadow*, and *manure* of the American farmer, should be treated with such neglect, that in a scientific work, published in our own days, and in our own country, it should be represented as "an *unknown*," whose native country is undetermined.

I have therefore taken extraordinary pains to ascertain its history, and after I have given the details, it will be found very easy to pronounce, to what portion of the globe the rest of the world are indebted for the Indian Corn.

I propose to divide this part of the subject into the following heads of inquiry.

1. Has the Indian corn been mentioned by any Greek or Roman writer?

2. Has any traveler, *prior to the discovery of America*, noticed the culture of Indian corn in any other part of the world?

3. If it is not a native of America, whence was it derived and *when* transplanted?

4. Was it known to and used by the aboriginal inhabitants of the West India Islands, and of South and North America before, or at the time of, their being first visited by Europeans?

5. What is the general opinion of learned persons upon its origin?

6. Are there any recent discoveries that will bear upon this subject?

A few words on these questions in their order.

1. Has the Indian corn been mentioned by any Greek or Roman writer?

This point has been conceded by the author of the article quoted from Lieber's Encyclopœdia Americana, and in so doing he has

‡ Kelham's Norman Dictionary.
§ Rees's Cyclopœdia.

done no more than was required of him at the hands of truth and candor. The "corn" which the disciples of our Saviour plucked and eat on the Sabbath, as they went through the corn fields, was not *Indian* corn; for in Luke vi. 1. the disciples are represented as *rubbing* the *ears* in their *hands* to get at the grains, an operation which would have succeeded with wheat and other small grains, but which was altogether inapplicable to Indian corn.

Pliny speaks of a certain dish much used and admired by the ancient Romans, called "*alica*," which was made of Zea. "Alica fit e Zea quem semen appellavimus." But "Zea" here means "spelt," or according to some, "beer barley" or "beer corn." See Ainsworth's Lat. Dict. which cites Pliny.

2. Has any traveler, *prior to the discovery of America*, noticed the culture of Indian corn in any other part of the world?

It is well known that, previously to the discovery of America, many intelligent travelers visited China, India, and other parts of Asia, as well as Africa; that some of these have been very minute in their descriptions of the vegetable productions of these countries; yet it is not pretended that any one of them has mentioned the cultivation of Indian corn. This universal silence upon the subject furnishes negative testimony, *at least*, and negative testimony of the strongest character, that the Indian corn was then an unknown plant.

It can hardly be supposed, if the Indian corn had been growing in those countries, that it would have escaped the notice of travelers; and this negative testimony is strengthened by the circumstances, that immediately *after* the expiration of a sufficient length of time from the discovery of America, to have enabled the curious to have transplanted the productions of this hemisphere to other parts of the world, we find intelligent foreign travelers employing their time in describing the Indian corn and its mode of culture. I have among my notes numerous instances of this class, which I forbear to press upon the reader.

3. If the Indian corn is not a native of America, *whence* was it derived, and *when* was it introduced in America?

Is it not a great objection to the proposition that the Indian corn was introduced into America from another part of the world, that no two writers agree *whence* it was originally derived. One asserts that it was brought from India, supposing it to have been introduced through Persia to Africa; another says that it originated on the western coast of Africa, &c. In like manner are these writers at fault, when the *time* when it was introduced into America is required to be known. We will presently see the reasons of this discrepancy as to the *place* from which the Indian corn is supposed to have been brought, and total inability to show *when* it was transplanted into the Americas. But these reasons will serve for any thing better than to show that it was not a native of this country.

To be continued.

Peach Tree.

Peaches are of two kinds; the clearstone and the clingstone; but there are good varities of each. The same sorts can only be raised by grafting, or inoculation: This may be on apricots, or on plum trees, and will make the grafted trees longer lived. The trees should have a warm, dry, fertile soil: a sandy loam is best. If the spot where they are planted be sheltered from the northerly winds, it will be the better. To raise the young trees, take stones that are fully ripe, and plant them in October. They will come up and grow to a good size in the course of the summer. They are to be kept clear of weeds, while in the nursery. At a year's growth, they may be grafted, or innoculated, and after two summer's growth, they may then be transplanted. This may be done when the leaves have fallen in autumn, or in the spring. Take plants with one strong clean stem, or, if they have two, cut one away, however fair. Let the downward root be cut off, in order that the tree derive its nourishment from earth nigh the surface, which will make the fruit less crude, and finer tasted. Be careful not to plant the trees too deep; for this is injurious to all fruit. Let the pruning of the new planted trees be omitted, till they have taken root.

In making a proper selection of trees, from which to graft or inoculate, a due regard should be had to three essentials.

1. To obtain the grafts, or buds, from trees bearing the finest fruit.

2. That this fruit should ripen at different times, from the earliest to the latest of the season for peaches.

3. That the grafts or buds be taken from trees which are plentiful bearers; but not such as bear so plentifully as to be broken by their fruit.

But, perhaps, the too plentiful bearing of trees is a quality not properly descendible to those which are raised from them, by grafting or otherwise. It would be well to ascertain this point by experiment.

It is said by some, that if the stones of peaches be buried immediately, without drying, they will produce trees bearing the same kinds of peaches, as those whence the stones were taken. This is well worthy of particuticular trial.

Spring Wheat

Has already superseded the winter species in Lower Canada, and in the northern section of the Union; and such are the casualties which the winter crop has to encounter from the Hessian fly, from hard winters, and from the grain worm, for the latter we have no doubt, will soon extend itself over the whole country, that we apprehend the farmers of the northern and middle states, at least, will soon find it advantageous to resort to the spring species of this grain for their main crop. Under this view of the subject, we think we shall be doing a service to the readers of the Cultivator by detailing what we know in relation to different species of spring wheat.

The *triticum æstivum*, or spring wheat, is said to be a native of southern Siberia and Sicily, whence its culture has been gradually dispersed through Europe and America. It ripens ordinarily about the same time as winter wheat, when sown very early; but when sown later it is fit to harvest in ten or fifteen days after the former. The following, among other varieties, are described in the books.

1. Having a red spike, or ear and grain.
2. Red spring wheat, with a white ear.
3. A white spike and grain. These three are all beardless varieties, of the same species, are not easily affected by moisture, and give a flour nutritious, but not so white, or in so large proportions, as the winter varieties cultivated among us.
4. *Siberian spring wheat*, probably the variety cultivated in Oneidia, and already noticed on the authority of Dr. Goodsell. It is bearded.
5. *The Egyptian*, or *many spiked wheat.* Loudon terms this a variety of winter, whereas with us it is a spring wheat. This is remarkable for its uncommon productiveness. The grains, however, do not yield so large a proportion of flour or meal as other species or varieties, and the flour is said to be scarcely superior to that obtained from the finest barley. It has been introduced in our country to a considerable extent.
6. *Spelt wheat*, noticed under correspondence. Sown in spring.
7. *Italian spring wheat.* This is the variety which was introduced by Mr. Hathway, of Rome, and which seems to have proved congenial to our soil and climate wherever it has been tried. It is bearded, the product is abundant, and the grain makes excellent flour.

There are besides those we have enumerated, several other varieties of spring wheat, with which we are not acquainted, as the Black Sea and Tea wheat, which are probably mere varieties, which have been modified by climate and culture.

The white, or spring or summer wheats, flourish best on light soils. The ground, however, requires to be well pulverized. A good preparation is a clover lay, ploughed in May, and sown the 15th in this latitude, (Albany,) so as to escape the grain worm. The straw of spring wheat is generally shorter than that of the winter varieties, the berry less plump, the flour less abundant, and darker, but equally nutritious.—*Cultivator.*

Sugar.

The following, which we translate from a late French paper, contain curious and interesting information:

At this time, when the important subject of sugars occupies public attention, we believe that our readers will be glad to receive some statistical information relative to the consumption of the article. The following scale of consumption is from a table published in the Edinburgh Review:

Ireland, with 8,000,000 inhabitants, consumes 18,000,000 kilogrammes* of sugar.

Spain, with 12,000,000 inhabitants, consumes 40,000,000 kil.

The United States, with 12,000,000 inhabitants, 100,000,000 kil.

Great Britain, with 16,000,000 inhabitants, 180,000,000 kil.

France, with 32,000,000 of inhabitants, 100,000,000 kil.

Which is an allowance for Ireland of 2½ kilogrammes per head; for Spain, 3½ kil., for the United States, 8½ kil., for Great Britain, 11¼ kil., for France, 3½ kil.

So it seems that our consumption is less than that of either England, the United States, or even Spain. It is only in Ireland, that miserable country, that they consume a little less sugar than in France.

Agricultural Society, New Castle Co., Del.

An adjourned quarterly meeting of the Agricultural Society of New Castle County was held at New Ark, 9th mo. 16th, 1837.

The President, P. Reybold, in the chair.

Benjamin Webb, Sam'l. Wollaston. Wm. R. Sellars, Wm. Chandler and Wm. Solomon, were appointed a committee to make arrangements for, and superintend the annual Cattle Show to be held in Wilmington on the 4th of next month (the first Wednesday in October;) and Dr. Wm. Gibbons, Samuel Hilles, James Webb, Merrit Canby and Dr. Thomson were appointed to have the management of the Horticultural Exhibition to be held at the same time. The committees were desired to publish as soon as practicable, for the information of persons having cattle, vegetables, or other articles to be

* A kilogramme is nearly two lbs.

exhibited, or to compete for premiums, handbills setting forth the plan of arrangements adopted by them.

A communication on the subject of the Italian Spring wheat was laid before the meeting, containing a proposition to furnish a quantity for seed, at $3 per bushel. The President stated that he had sown a quantity of this wheat in the spring of the present year, and that the crop was a very good one, while the crops of the common wheat in the neighborhood were poor, and in many instances almost entirely failed. He considered it a most important acquisition to the farming interest of the State in consequence of the comparative certainty of the crop. He had not yet manufactured any flour from it, though it is said to be quite equal to the common kind for bread. The entire crops that he had raised this year, he wanted for his own use as seed—intending to cultivate it in future. Several gentlemen present expressed a wish to have a supply of the article, and the corresponding secretary (Dr. Thomson) was requested to procure 12 barrels for distribution among the members.

The following gentlemen were appointed to decide on the premiums at the approaching exhibition.

On Neat Cattle. P. Reybold, B. Webb, Samuel Canby, Edward Tatnall, Thomas Blandy, Richard Topham, Jos. Hossinger.

On Horses. Dr. Thomson, Thos. Garret, D. W. Gemmell, Henry Dupont, John H. Price, James L. Miles.

On Oxen. John Higgins, Wm. Hurlock, W. R. Sellers, W. Robinson, Jesse Gregg.

On Swine. Bryan Jackson, Jas. Caldwell, John Clarke, Wm. Chandler.

On Crops. Andrew Gray, Thos. Stockton, Edwd. Tatnall, W. Reybold, Alex. S. Read, Anthony Higgins, Samuel Wollaston, Wm Rothwell, Levi Couch, Thos. Blandy, James L. Brindley.

On Butter. John Smith, N. C. H., Z. B. Glazier, John L. Robeson, Merrit Canby, James Webb.

On Oil. Dr. Thomson, and Edw. Grubb.

On Beet Sugar. Dr. William Gibbons, B. Webb, and Samuel Wollaston.

On Silk. Dr. J. S. Naudain, Merrit Canby, Eli Hilles, James Price.

On Culinary Vegetables. Edmd. Canby, Jas. M'Cullough, Marcus E. Capelle, and Benjamin Whiteman.

On Fruits. Dr. William Gibbons, Edward Tatnall, Dr. Thomas, A. S. Read, James T. Bird.

On Flowers. George Reynolds, Samuel Canby, Wm. H. Jones.

A committed consisting of M. Canby and the Secretary, was appointed to examine the Treasurer's account, and report to the next meeting; and also to bring forward a list of members designating those who have not paid their annual contribution.

On motion of Mr. Canby, it was

Resolved, That this society have learned with great satisfaction that a company of gentlemen, members of our association, have purchased at Whitaker's sale of Durham Cattle at Powelton, the full breed, imported Bull, *Maxwell;* and that the society earnestly recommends to the breeders of Stock in Delaware, the use of this fine animal, which will soon be offered to the members of the society and the farmers generally of the State.

On motion of John Higgins, seconded by B. Webb, the following resolution was adopted nem. con.

Resolved, That in the appointment of Delegates to the Business Convention lately held in Philadelphia, as invited by the New York Institute, and in all its proceedings and appointments, this society has had in view no other objects than the advancement of the Agricultural interests of the county and State, and the general prosperity of the country; and that it utterly disclaims the gratuitous imputation of political or sectional influence.

Benjamin Webb was appointed to supply the place of Thomas Robinson, who has removed from the State, as a representative from this Society to the Convention of Business Men.

A number of gentlemen recorded their names as members, and the society then adjourned.

H. Gibbons, Sec'ry.

The Cattle Show and Horticultural Exhibition

Of the Agricultural Society of New Castle county, will be held in Wilmington on the 4th day of next month. Particulars of the arrangements will be published in handbills. Persons having Cattle, Vegetables, Fruits, or any other articles for exhibition, or designed to compete for premiums, may apply for information to any of the individuals named in the following committees of management and superintendence

On the Cattle Show. Benjamin Webb, Samuel Wollaston, Wm. R. Sellars, Wm. Chandler and Wm. Solomon.

On the Horticultural Exhibition. Dr. W. Gibbons Sam'l. Hilles, Jas. Webb, Merrit Canby and Dr. Thomson.

Good Advice.

It is a bad practice to feed your mowing land very closely in the fall. There should be enough of the after grass left to protect the roots of the grass against the frosts of winter. We have known, says the editor of the Farmers' Library, good farmers who would not suffer their mowing lands to be pastured at any time of the year. But if the soil be well dressed with manure, it can do but little if any injury to pasture it in the fore part of autumn, *taking care not to let cattle run upon it when wet*, or so soft that they would make much impression on it with their feet.

ARTICLES.	Philadelphia, Sept. 28.	Baltimore. Sept. 27.	New York, Sept. 27.	Boston, Sept. 26.
Beans, white, per bush.	$1 37-1 62½	1 25—0 00	0 00—0 00	1 37—1 75
Beef, mess, new, per bbl.	14 00-15 00	13 50-14 20	13 50-14 50	13 00-14 00
Bacon, western, per lb.	8— 9½	7— 9	8— 10	.....
Butter, extra, per tub	13— 14	16— 20	18— 20	18— 22
Butter, fresh, per lb. (market,)	18— 25	20— 25	20— 25	24— 27
Hams, per lb.	12— 14	12— 13	12— 14	10— 12
Hog's Lard, per lb.	7½— 8½	9— 10	8— 10	8— 9
Cheese, American, per lb.	10— 12	9— 11	9— 11	8— 9
Beeswax, yellow, per lb.	26— 27	23— 25	24— 27	26— 29
Beeswax, white,	.....	38— 40	38— 40	38— 40
Bristles, American,	42— 65	25— 65	25— 65	.....
Flax, American,	8½— 9	9— 10	9—	9— 12
Flour, best, per bbl.	8 00—9 00	8 00—8 25	7 50—9 00	9 00—9 25
GRAIN—Wheat, per bush. Penna.	1 55—1 70	0 00—0 00	1 70—1 80	.....
do. Maryland,	1 60—1 75	1 25—1 65	1 60—1 75	.....
Rye, per bushel,	80— 85	75— 80	—0 75	0 80—0 85
Corn, do.	1 00—1 02	90— 96	1 00—1 80	0 93—1 02
Oats, do.	40— 43	30— 32	35— 45	00— 00
Barley, do. Penn.	.....	.....	0 00—	1 00—0 00
Peas do.	1 00—1 25	87—1 00	— 8	.....
HAY, Timothy, per 100 lbs.	1 00—1 10	12 00 pr. ton.	.....	18 00 pr ton.
Meadow Grass,	70— 80	.....	.....	.....
Hemp, American dry rot, ton,	175 00-	6— 7	130 —140	.....
Hops, first sort, 1836, lb.	7— 8	— 9	8— 10	6— 8
Plaster Paris, per ton,	3 25—0 00	3 37—3 50	2 50—	2 50—2 62
SEEDS—Cloverseed, per bushel,	6 00—7 00	6 00—6 50	.....	.....
Flaxseed, rough, do.	1 30—1 37	1 37—1 50	.....	.....
Timothy,	2 00—	3 25—4 00	.....	2 87—3 00
Tallow, per lb.	8½— 10	— 10	9— 10	00— 00
WOOL—Saxony, fleece, per lb.	00— 00	40— 50	75— 80	.....
Merino,	00— 00	35— 40	50— 68	.....
1-4 and common,	00— 00	25— 30	40— 50	.....

Gentlemen whose subscriptions commenced with the thirteenth number, or second half year of the first volume of the Cabinet, and who may wish to complete their sets by obtaining the first twelve numbers, should make early application for the same. All letters on this subject, must be post paid. ☞ Post Masters are hereby authorized and respectfully requested to forward us the names of persons who may wish to *continue* the work, as well as the names of *new* subscribers; and after retaining twenty per cent. commission, transmit us the balance of any moneys they may have received:—And any gentleman may constitute himself a special agent, by remitting us five dollars, free of postage, for which sum, we will forward seven copies according to his direction.

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